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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,548

01/03/2007

Alain Straboni

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06/03/2011

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EXAMINER

SMITH, BRADLEY

ART UNIT

PAPER NUMBER

2894

MAIL DATE

DELIVERY MODE

06/03/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,548	Applicant(s) STRABONI, ALAIN	
	Examiner BRADLEY K. SMITH	Art Unit 2894	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Escoffery (US Patent 3,151,379). Escoffery disclose comprising at least one component belonging to the group formed by the elements of column IV of the Mendeleiev table and their alloys, said method comprising- a-step one or more steps of compression of said powders and one or more thermal processing steps such that at least part of the powders is melted or made viscous, wherein, at least one of the one or more compression steps and at least one of the one or more thermal processing steps are simultaneous. Regarding claim 10, Escoffery disclose a structure or a component formed of one or comprising at least one semiconductor material comprising grains and/or aggregates exhibiting energy gaps of different value (i.e. grains of silicon and grains of silicon with dopant).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Escoffery (US Patent 3,151,379) in view of Stevens (US Patent 5,431,127).

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Escoffery disclose the invention *supra*.

Escoffery fails to disclose the powders are pressed against plates having a surface capable of texturizing the material.

Stevens discloses the powders are pressed between plates (smoothing blade and substrate) having a surface capable of texturizing (smoothing) the surface of the material.

Therefore it would have been obvious to one of ordinary skill in the art to combine the teachings of Escoffery and Stevens because the smooth surface would add uniformity and planarity to the compressed powders. Furthermore one of ordinary skill in the art knows the semiconductor industry strives for uniformity so as to maximize consistent yields.

Response to Arguments

Applicant's arguments filed 3/22/11 have been fully considered but they are not persuasive.

The applicant contends "There is no indication in the cited portion of Escoffery that silicon powders may be melted or made viscous under these conditions." However the examiner understands that sintering and attendant coalescing would read on "made viscous". As evidence, Britannica Academic Edition (online Encyclopædia Britannica) defines sintering as the welding together of small particles of metal by applying heat below the melting point. The Britannica Academic Edition further discloses the driving force in sintering is decreasing surface energy; as the sintering proceeds, adjacent particles partially coalesce owing to viscous flow.

Allowable Subject Matter

Claims 8-14 are allowed.

Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest the thermal processing is such that only powders belonging to a specific area of the material are melted or made viscous (claim 3 and 11) the powders comprise silicon powders and powders of at least another component, the thermal processing being such that the silicon is not melted and that at least one of the other components is melted or made viscous (claim 4 and 12) the powders comprise doped semiconductor powders and undoped semiconductor powders, the thermal processing being such that only the doped powders are melted (claim 5 and 13) and the alloys thereof and the powders being placed on the plate due to at least one of their nature, their granulometry, and their doping according to their location on the plate (claim 6 and 14) a semiconductor obtained at least partially by compression and thermal processing of powders comprising at least two distinct areas formed of distinct components belonging to the group formed by the elements of column IV of the Mendeleiev table and the alloys thereof (claims 8 and 9).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRADLEY K. SMITH whose telephone number is (571)272-1884. The examiner can normally be reached on 10 am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Nguyen can be reached on 571-272-2402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRADLEY K SMITH/
Primary Examiner, Art Unit 2894

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